

CLAIMS

What is claimed is:

1. A printing apparatus comprising:
a print mechanism having a movable component;
an optical grating for modulating a beam of light;
a sensor for sensing modulated light provided by the optical grating;
the optical grating and the sensor moving relative to each other pursuant movement of the movable component; and
the optical grating including a plurality of contiguously adjacent first encoder bars and a plurality of second encoder bars, wherein the contiguously adjacent first encoder bars and the second encoder bars are substantially uniformly spaced, and wherein the contiguously adjacent first encoder bars are configured to change an amplitude of an output of the sensor.
2. The printing apparatus of claim 1 wherein the movable component comprises a print drum and further including an ink jet marking system.
3. The printing apparatus of claim 1 wherein the movable component comprises an ink jet printhead and further including a supply of solid ink that is melted and provided to the ink jet printhead.
4. The printing apparatus of claim 1 wherein the movable component comprises a print drum and further including an electrophotographic marking system.

5. The printing apparatus of claim 1 wherein the second encoder bars are of substantially identical width.

6. The printing apparatus of claim 1 wherein the contiguously adjacent first encoder bars are narrower than the second encoder bars.

7. The printing apparatus of claim 1 wherein the contiguously adjacent first encoder bars are narrower than the second encoder bars and are of gradually changing width.

8. The printing apparatus of claim 1 wherein the contiguously adjacent first encoder bars are wider than the second encoder bars.

9. The printing apparatus of claim 1 wherein the contiguously adjacent first encoder bars are wider than the second encoder bars and are of gradually changing width.

10. The printing apparatus of claim 1 wherein the contiguously adjacent first encoder bars are shorter than the second encoder bars.

11. The printing apparatus of claim 1 wherein the contiguously adjacent first encoder bars are shorter than the second encoder bars and are of gradually changing height.

12. The printing apparatus of claim 1 wherein the contiguously adjacent first encoder bars are taller than the second encoder bars.

13. The printing apparatus of claim 1 wherein the contiguously adjacent first encoder bars are taller than the second encoder bars and are of gradually changing height.

14. The printing apparatus of claim 1 wherein the second encoder bars are of substantially identical darkness.

15. The printing apparatus of claim 1 wherein the contiguously first encoder bars are lighter than the second encoder bars.

16. The printing apparatus of claim 1 wherein the contiguously adjacent first encoder bars are darker than the second encoder bars.

17. The printing apparatus of claim 1 wherein the contiguously adjacent first encoder bars are more transmissive than the second encoder bars.

18. The printing apparatus of claim 1 wherein the contiguously adjacent first encoder bars are less transmissive than the second encoder bars.

19. The printing apparatus of claim 1 wherein the contiguously adjacent first encoder bars are optically different from the second encoder bars.

20. The printing apparatus of claim 1 wherein the contiguously adjacent first encoder bars and the second encoder bars include the non-linear sides.

21. The printing apparatus of claim 1 wherein the plurality of second encoder bars are disposed on both sides of the contiguously adjacent first encoder bars.

22. A printing apparatus comprising:
a print mechanism having a movable component;
an optical grating for modulating a beam of light;
a sensor for sensing modulated light provided by the optical grating;
the optical grating and the sensor being movable relative to each other pursuant to movement of the movable component; and
the optical grating including a plurality of contiguously adjacent first encoder bars of respective first encoder bar widths and a plurality of second encoder bars of a substantially constant second encoder bar width, wherein the contiguously adjacent first encoder bars and the second encoder bars have non-linear sides and are substantially uniformly spaced, and wherein each of the first encoder bar widths is different from the substantially constant second encoder bar width.

23. The printing apparatus of claim 22 wherein the movable component comprises a print drum and further including an ink jet marking system.

24. The printing apparatus of claim 22 wherein the movable component comprises an ink jet printhead and further including a supply of solid ink that is melted and provided to the ink jet printhead.

25. The printing apparatus of claim 22 wherein the movable component comprises a print drum and further including an electrophotographic marking system.

26. The printing apparatus of claim 22 wherein the contiguously adjacent first encoder bars are narrower than the second encoder bars.

27. The printing apparatus of claim 22 wherein the contiguously adjacent first encoder bars are narrower than the second encoder bars and are of gradually changing width.

28. The printing apparatus of claim 22 wherein the contiguously adjacent first encoder bars are wider than the second encoder bars.

29. The printing apparatus of claim 22 wherein the contiguously adjacent first encoder bars are wider than the second encoder bars and are of gradually changing width.

30. The printing apparatus of claim 22 wherein the plurality of second encoder bars are disposed on both sides of the contiguously adjacent first encoder bars.

31. A printing apparatus comprising:
a print mechanism having a movable component;
an optical grating for modulating a beam of light;
a sensor for sensing modulated light provided by the optical
grating;

the optical grating and the sensor moving relative to each other
pursuant movement of the movable component; and

the optical grating including a first encoder bar and a plurality of
second encoder bars, wherein the first encoder bar and the second encoder
bars are substantially uniformly spaced and wherein the first encoder bar is
optically configured to change an amplitude of an output of the sensor.

32. The printing apparatus of claim 31 wherein the movable
component comprises a print drum and further including an ink jet marking
system.

33. The printing apparatus of claim 31 wherein the movable
component comprises an ink jet printhead and further including a supply of
solid ink that is melted and provided to the ink jet printhead.

34. The printing apparatus of claim 31 wherein the movable
component comprises a print drum and further including an
electrophotographic marking system.

35. The printing apparatus of claim 31 wherein the second
encoder bars are of substantially identical width.

36. The printing apparatus of claim 31 wherein the first
encoder bar is narrower than the second encoder bars.

37. The printing apparatus of claim 31 wherein the first encoder bar is wider than the second encoder bars.

38. The printing apparatus of claim 31 wherein the first encoder bar is shorter than the second encoder bars.

39. The printing apparatus of claim 31 wherein the first encoder bar is taller than the second encoder bars.

40. The printing apparatus of claim 31 wherein the second encoder bars are of substantially identical darkness.

41. The printing apparatus of claim 31 wherein the first encoder bar is lighter than the second encoder bars.

42. The printing apparatus of claim 31 wherein the first encoder bar is darker than the second encoder bars.

43. The printing apparatus of claim 31 wherein the first encoder bar is more transmissive than the second encoder bars.

44. The printing apparatus of claim 31 wherein the first encoder bar is less transmissive than the second encoder bars.

45. The printing apparatus of claim 31 wherein the first encoder bar and the second encoder bars include the non-linear sides.